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ABSTRACT

Using the series, "A Question of Economics," as the basis for a study carried out between January and May of 1985, three surveys were conducted: (1) 180 questionnaires were sent to a random sample of members of the Economics Association to determine how extensively television is used in economics instruction and how teachers used the programs; (2) questionnaires were sent to 29 first- and 19 second-year "A" level students to discover their attitudes toward the use of television in their economics courses; and (3) 25 follow-up questionnaires were sent to a random selection of teachers to examine facilities available to teachers to record and show programs. Findings show that 60 percent of the teachers surveyed were taping the series and 71 percent would make use of the programs in the future. The fact that 85.4 percent of the students sampled found the series either interesting or very interesting lends support to the use of these techniques in the classroom, although only 27.1 percent of the students reported watching the series on their own time. Although the majority of teachers used the VHS format for taping, there was great diversity in the facilities available to record and watch programs. Data tables showing composition of respondents, numbers watching the series in and out of school, student responses, assessment of the series' difficulty, analysis of attitude responses, facilities available, and time spent on classroom techniques are followed by questionnaires used in the survey. (LH)

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THE TAKE-UP AND USE OF THE CHANNEL FOUR TELEVISION SERIES "A QUESTION OF ECONOMICS" BY SCHOOLS AND FURTHER EDUCATION COLLEGES

by

NIGEL J. CARR, B.A., M.A.

U.S. DEPARTMENT OF EDUCATION
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The take-up and use of the Channel Four Television Series "A Question of Economics" by Schools and Further Education Colleges.

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N.J. Carr, B.A., M.A.

Summary

Nigel Carr's second research paper examines the current use of television and video in A level economics teaching. His sample of economics teachers provides information on how extensively television is used, how teachers use programmes, and what attitudes they and their students have towards the use of TV. The series 'A Question of Economics' is used as the basis for the research.

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Research Papers in Economics Education, University of London Institute of Education. Department of Economics, Geography and Business Education.

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Section 1

Introduction

At regular intervals during the last two decades, educationalists in all fields have hailed the current technological advances in the field of broadcasting as being of major importance and having substantial implications for the pedagogical process both in schools and in further education. All too often, their claims have failed to permeate down to the classroom teacher whose methods of instruction have not been adapted to take account of these so-called vital changes in broadcasting technology. The advent of the video-cassette recorder can be seen as merely one more stage in this process or, alternatively, as the means whereby all the previous advances can finally be fully and properly utilised. As Sumner suggests: "There is absolutely no doubt that the educational potential of broadcasts can be fully realised only if they are used in recorded form. Pre-recording enables the teacher to use the programmes in a very flexible way, in whole or in part, and as and when it is most appropriate to do so. Pre-recording also gives the teacher the opportunity to listen in advance and to make considered decisions about whether the material is more suitable for initiating, for working through or for following up the topic concerned." (Sumner, 1982, p. 65).

The value of the use of teaching aids such as television in school courses is disputed. On the one hand, there are those who argue for the student's active participation as far as possible in the learning process. Ryba, for example, suggests that: "Psychological research has... led to a growing appreciation of the need to ensure the learner's active participation in the learning process and in the discovery of what is to be learnt. Responding to this view, teachers' main concerns have shifted towards a more learner-orientated and experientially based conception of their task". (Ryba, 1985, p. 218).

Such views imply a move away from the use of videos and television programmes where, in the majority of cases, the student is essentially passive, towards their participation in a more active role. However, supporters of the medium would argue that the watching of a video need not necessarily be a passive occupation, since by skilful interruptions, discussions, questions and follow-up work, the teacher can fully involve the students as well as, if not better than, in the conventional lesson. One such supporter is Paden, who argues that: "There is technology available with the potential for substantially altering present conduct within the classroom and vastly more sophisticated technology on the horizon which will undoubtedly change radically our concept of teaching and the role of the professor in the instructional process. There is some urgency, therefore, and considerable importance attached to our understanding of what television has in store." (Paden, 1977, p. 25). On a more practical level, Wilson argues strongly in favour of a greater use of television in the classroom, provided it is done in the appropriate manner. He suggests that: "In the teaching of economics, television has so many advantages...that its relatively low level of use borders on the scandalous" (Wilson, 1985, p. 272). He argues that television is particularly well suited to the dynamic nature of economics since it can be used to show relationships which the teacher would previously have had to explain verbally or on the blackboard. He concludes that: "The introduction of video libraries and portable VCR's into schools and colleges has enabled repetitive partial viewing of a programme to become an everyday possibility and, with forethought, using a television programme can become an activity involving a great deal of student participation rather than simply an occasion for passive viewing." (Wilson, op. cit. p. 273).

There has been relatively little research carried out in the U.K. regarding the effectiveness of television in teaching economics. One exception is the work of Costello and Moss, who reported on an experiment at Leeds University between 1972 and 1975 concerning the use of television to teach elements of the economics course. They argued that in many cases, students found the traditional lecture either boring or irrelevant and they therefore attempted to use television to teach certain topics such as welfare economics and general equilibrium theory, which were found to be particularly difficult. The specially-designed videos were used selectively as part of fifty-minute lectures and were available in the library for the students to consult afterwards. It was found that: "Typical television programmes of 25 to 35 minutes duration can, and often do, cause the same kind of sleepiness as large formal lectures...Short inserts, on the other hand, provide variety in the teaching mode and can be directly integrated into the teacher's material." (Costello and Moss, 1976, p. 89).

Using the short inserts, they argued, student understanding was more complete than previously, (although this was not tested empirically). The implications of their research for the classroom teacher are clear, both with regard to the tendency for students to "switch off" during a thirty minute video as easily as during a lesson and also for the desirability of having the means available for students to return to the video in their own time to reconsider particular sections.

A similar piece of research from Harvard University was reported upon by Allison, (Allison, 1976). The approach adopted there was to concentrate on specific key topics which the students found difficult, as at Leeds University, and produce a series of videos, each covering one of these areas. They were to be located in the university library and were intended for direct use by the student. The videos, lasting between thirty and forty minutes, contained an introduction to the concept, a presentation of the relevant theory, its application in numerical and real-life examples, a series of questions and their answers. Their aim was simply to alleviate difficulties which the student might have in particular areas of the course. She also reports on the design of a series of shorter videos, of between ten and fifteen minutes duration, intended to be used by the course instructor.

She argues that: "Some preliminary experimentation suggests that these core tapes offer several advantages. They expose students to a much better presentation than they would otherwise receive, given the care and time that can be justified in making a repeat-use presentation. They appear to encourage student questions, apparently because they no longer feel that asking a question might be interpreted as an insult to their instructor." (Allison, 1976, p. 33).

Paden, in a review of the American experience of using television to teach all or part of the basic course in economics in colleges, cites evidence from the University of Nebraska, Michigan State University and the University of Illinois that students did as well with television as with more conventional methods, but he observes that: "A good many students liked television instruction but more seemed to react negatively. It was perhaps this fact more than anything else which led to the discontinuance of at least some of the earlier programmes (in the 1960's)." (Paden, 1977, p. 72).

He then cites the revival of interest which the medium is experiencing and points, for example, to schools using television for complete fifty minute

lessons, for thirty minute lectures followed by twenty minute discussions, to present short "dramatic situations", to promote discussions and for reference by students in libraries.

The "Trade-Offs" series, first released in the U.S.A. in 1978, is a series of fifteen twenty minute programmes designed to introduce the study of economics to nine to thirteen year olds. These programmes are accompanied by teachers' guides, in-service training and summer workshops to enhance teacher performance. The content of the series, with its strong emphasis on the free market and the virtues of the U.S. economic system, can be criticised but this is beyond the scope of this paper.

Chizmar and McCarney cite much evidence that the "Trade-Offs" series has had the effect of significantly increasing students' understanding of and favourable attitude towards economics. (Chizmar and McCarney, 1984). One later piece of research, characteristic of the many studies about the series, found that "Trade-Offs"improved students' performance in two major ways:
1. As the number of weeks of instruction increases, the rate of increase in student score is significantly greater for students using "Trade-Offs";
2. A significant difference in performance on the basis of sex in the score of students not using the series disappears for those using it. (Chizmar and Holinski, 1983).

"Trade-Offs" has now been superseded by "Give and Take", a series of twelve 15-minute programmes on topics such as opportunity cost, public goods and services, market structure and supply and demand .

An alternative experiment, with a different conclusion, was carried out at the University of Georgia, with the aim of using television to teach the elementary economics course more effectively. The researchers found that: "The results thus far have been disappointing because the television groups score significantly lower...on the Test of Understanding in College Economics .... We suspect that this finding, which differs from most previous reports, results from the fact that many of the variables affecting student achievement and acceptance of television are not easily identified and are even more difficult to measure." (Danielsen and Stauffer, 1972, p. 101).

Their conclusions have clear implications for anyone planning to use a video-recording in the classroom: "In retrospect, the television course suffered from several serious deficiencies. First, the classroom format of five minutes for administrative activities, thirty minutes of television, and fifteen minutes of discussion was probably not optimal. Students were critical because they could not ask questions. And by the time the discussion period arrived many questions had been forgotten. Second, the television assistants were inadequately prepared to teach....Television instruction requires careful planning, organization, co-ordination and control of planned activities to be successful." (Danielsen and Stauffer, op. cit. p. 105).

The aim of this paper is to examine the current usage of the medium in schools with particular reference to the teaching of 'A' Level economics. Research was undertaken firstly to evaluate the extent of the use of television in schools, secondly to examine the way teachers made use of the resources available to them in this field and finally to assess the attitudes of both teachers and students towards the use of television in the classroom. The new Yorkshire Television series, "A Question of Economics", shown initially on Channel 4 in the first half of 1985, was used as a basis for the research.

The series consists of 20 half-hour programmes, divided into two sections, with the first ten programmes concentrating on macro-economic issues while the latter ten programmes have a more micro-economic emphasis. Each programme is aimed at a specific question (rather than at an area of economic theory), e.g. "Is Big Business Out Of Control?" and "Is The City Doing A Proper Job?" A complete list of programmes is to be found in Appendix 1. In all programmes, there is considerable emphasis placed on comparing the different views of economists, such as Messrs. Beenstock, Minford, Opie, Budd and Peston, all of whom feature regularly. The series also makes considerable use of case studies to illustrate particular issues*.

The series is intended not only for 'A' Level use in schools and colleges but, more importantly from the producers' point of view, for a far wider audience for whom the intention is to make basic economic issues more accessible. To this end, the television programmes are only one element of a wider package which includes a BTEC (Business and Technical Education Council) post-experience unit of study linked to the series, forming part of their Certificate in Business Administration. The NEC (National Extension College) has issued a self-study text to accompany the programmes, for those wishing to study at home or via a college-based open-learning course, either for those studying for interest or for those aiming at the BTEC award. There is also a Penguin book written by Peter Donaldson, a co-presenter of the series, to accompany the programmes. The success of the series in achieving its wider objectives is beyond the scope of this paper.

Section 2: The Design Of The Study.

The study is based upon three surveys carried out between January and May, 1985. The first of these, in January 1985, was in the form of a questionnaire sent out to a sample of members of the Economics Association randomly sampled from its mailing list. This was a survey specifically related to the television series "A Question of Economics", then currently being shown for the first time on Channel 4 television on Sunday afternoons. The second survey, undertaken in May, 1985, was a questionnaire to first and second year 'A' level students to discover their attitudes towards the use of television programmes in the teaching of economics. The final survey, in June 1985, was a follow-up questionnaire sent to a random selection of teachers replying positively to the first questionnaire. It aimed to discover in detail what use was made of the medium of television in the classroom.

In addition, a survey carried out by Adrian Perry among 41 heads of Department of schools and colleges of further education who attended a regional meeting in March 1985 about the series was made available to the author, as also were the views of 15 people who attended a meeting of the Economics Association in June 1985, and the results are incorporated into this paper.

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* Although the purpose of this paper is not to review the series, further comments from students and teachers are to be found at the end of Section 4.

Section 3: Teachers' Questionnaire 1.

180 questionnaires were sent out to a random nationwide selection of members of the Economics Association and, of these, 97 usable replies were received. The aim of this preliminary investigation was to generate information about the extent of viewing of the series "A Question of Economics". The questionnaire is set out in Appendix 2.

Table 1 shows the composition of respondents by type of teaching institution.

Table 1: Composition of Respondents by Institution

Type of Institution	Number of Respondents	Percentage
Comprehensive School	57	58.8
VIth Form College	7	7.2
Independent School	12	12.4
F.E. and other Institutions	21	21.6
Total	97	100.0

All but a very small percentage of the sample, (4.1%), were aware of the series, but this cannot be taken as being a representative figure of economics teachers as a whole, since all members of the Economics Association, from whom the sample was selected, would have received notification of it via information sent out with its journal, Economics. Table 2 summarises the various ways in which respondents recalled having heard about the series.

Table 2: Sources of Information

Source of Information	Number of Respondents	Percentage
Economics Association	37	33.64
Television Company Mailing	21	19.09
Newspapers	15	13.64
Television Advertisements	16	14.55
Other Sources	7	6.36
Unknown	14	12.72
Total	110[1]	100.00

1. The total exceeds the number in Table 1 because of more than one source of information being cited in some answers.

As expected, the Economics Association scores highly although not as highly as might have been expected. It is interesting to note that the main response in the "Other" category was the teacher/lecturer being informed about the series by a student.

The next question was whether the series was being watched currently. Table 3 sets out the results.

Table 3: Numbers Currently Watching The Series

Type of Institution	Number	Percentage
Comprehensive School	34	59.6
VI Form College	6	85.7
Independent School	7	58.3
F.E. and other institutions	13	61.9
Total	60	61.8

A chi-squared test carried out on the above data reveals no significant difference between any of the above institutions. ($\chi^2 = 1.4454$). These relatively low figures cannot necessarily be taken as a reflection on the series itself but might be more of a reflection of the time it was shown (Sunday afternoon from 2.00 p.m. to 2.30 p.m.) Indeed the figures for the number of teachers recording the series or planning to purchase the video, considered below, suggest a more favourable response.

The numbers of those watching and not watching at different institutions were correlated with the length of time which they had been teaching. The results are set out below in Table 4.

Table 4: Teaching Experience

Type of Institution	Average Teaching Experience (Years)		
	Watching	Not Watching	Total
Comprehensive School	9.41	13.13	10.95
VI Form College	11.50	18.00	12.40
Independent School	10.43	9.20	9.92
F.E. and other instituions	14.08	18.29	15.55
Total	10.75	13.25	11.70

Apart from the light shed upon the relative experience, and hence very likely the age, of respondents in different sectors of the educational system, a 't' test[1] carried out on the data in Table 4 reveals no statistically significant difference in the experience of those watching and not watching the series, thus countering the view that older members of the profession are less likely to be keeping up with new developments and resources than their younger colleagues.

An attempt was made to assess how much use teachers were planning to make of the series in the future, by considering how many were recording the series or were planning to purchase the videotapes marketed by Yorkshire Television. Of the 97 respondents, 58 (60%) were recording the series, including 13 who were not actually watching it themselves. A further 11 said they were likely to purchase the video, making a total of 69 (71%) who would have the facility to make use of the programmes in the future. A

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1 Because of the small size of classes within the sample, it is not possible to analyse these figures on a disaggregated basis and the 't' test therefore refers to all the combined data for all types of institution.

higher response was found from Adrian Perry's survey, where 93% were either recording the series or planning to purchase it in the future. However, these figures are difficult to evaluate since there are no comparable estimates known to the author available for other similar series such as "10 x Economics".

Finally, respondents were asked to list other television programmes they had made use of in their economics teaching. Clearly top of the list was "10 x Economics" with 31 citations, followed by "The Money Programme" (8), "Panorama" and "Weekend World" (7 each), and finally "Economics of the Real World" (5). The accuracy of these figures is open to question since the admission that teachers were recording programmes would imply a breach of copyright: it is likely that greater use was being made of programmes than is suggested in the answer to this question.

Among the reasons given by those not watching/using the series, insufficient time to show the programmes featured most strongly (mentioned in ¾ of the responses) followed by a lack of facilities to record the series.

Section 4: Student Questionnaire

In order to examine student response to the use of the series in teaching 'A' level economics, a questionnaire was given to two groups of students. The questionnaire is set out in Appendix 3. Both groups of students were from an independent school, the first group comprising 29 first year sixth formers, and the latter group 19 second year sixth formers. Both groups answered the questionnaire in May, 1985. By this time, the two groups had each seen a number, but not all, of the programmes in a class setting, the programmes being shown as they became relevant to particular topics in the syllabus, rather than in the order in which they were broadcast.

The students were asked firstly whether they watched the series at home either regularly (at least fifty per cent of the programmes), occasionally (less than fifty per cent) or not at all. The results are set out below in Table 5. It should be noted that these figures are not likely to be representative of casual viewing amongst 'A' level students, since both groups were recommended to watch the series out of school by their teachers. It is however interesting to note that, by the time the questionnaires were completed, 20.8% had forgotten that they had been recommended to watch the programmes.

Table 5: Numbers Watching Out of School

	Regularly		Occasionally		Never	
	No.	%	No.	%	No.	%
1st Year Sixth Form	3	10.34	14	48.28	12	41.38
2nd Year Sixth Form	3	15.79	12	63.16	4	21.05
Total	6	12.50	26	54.17	16	33.33

A chi-squared test reveals no significant difference between the proportions of first and second year students watching the series out of school. ($x^2 = 2.1661$).

The students were then asked to rate the programmes they saw, both in class and at home, as being either "very interesting", "uninteresting" or "very uninteresting". The results are set out in Table 6.

Table 6: Student Response To The Series

	Very Interesting		Interesting		Uninteresting		Very Uninteresting	
	No.	%	No.	%	No.	%	No.	%
1st Year Sixth Form	3	10.34	21	72.41	5	17.24	-	-
2nd Year Sixth Form	2	10.53	15	78.95	2	10.53	-	-
Total	3	10.42	36	75.00	7	14.58	-	-

The fact that 85.42% of those sampled found the series either interesting or very interesting lends support to the use of such techniques in the classroom. However, these figures should be treated with some caution, since there is a strong possibility that students deemed it appropriate to reflect teacher interest in the series in their answers.

The degree of difficulty of the series was then investigated. Students were asked to rate the programmes they had watched as "too easy", "about right", or "too difficult". (This rating was carried out by the students solely with regard to their 'A' level studies and therefore cannot be used as a guide to the series' suitability for the other purposes, such as BTEC courses, mentioned in the introduction). The students' assessment is presented in Table 7. As one would expect, proportionally more of the second year sixth formers found the series too easy than did first year sixth formers and the reverse was true at the other extreme, with no second year students finding the series too difficult. However, these observed differences are not statistically significant as the chi-squared test shows. ($x^2 = 5.4205$).

Table 7: Assessment of Series Difficulty

	Too Difficult		Too Easy		About Right	
	No.	%	No.	%	No.	%
1st Year Sixth Form	2	6.90	4	13.79	23	79.31
2nd Year Sixth Form	-	-	7	36.84	12	63.16
Total	2	4.17	11	22.92	35	72.92

Students were asked whether they found the series useful or not, with 44, (91.7%), suggesting that it was. However, when their responses to this question are compared to their answers to the question concerned with how frequently they watched the series in their own time, 13 (27.1%), admitted that the programmes were useful yet never watched any in their own time. It was generally agreed that the programmes were unbiased, a view held by 41 students, (85.4%), with 5 students, (10.4%), thinking that they were left-orientated and 2 students, (4.2%) thinking the reverse. The students' response is similar to that given by the teachers questioned in the second teachers' questionnaire (see Appendix 4) where 80% thought the series unbiased.

The questionnaire then presented students with a number of statements concerning the series with which they had to express agreement or disagreement using a standard Likert scale from 1 (agree strongly) to 5 (disagree strongly). Their responses were then analysed, first as an aggregate group and second by comparing the responses given by the first and second year sixth form groups to see if any significant differences existed between them. The problems involved in using such scales are discussed fully by Whitehead (Whitehead, 1985), and are not therefore considered here. Table 8 presents the results of the aggregate analysis. (A mean response of less than 3 indicates a general agreement with the statement while a response of more than 3 indicates disagreement). Although there was agreement with the statements that "the programmes increased interest in economics" and "the programmes were useful in providing an alternative view to that presented by our usual teachers" it was not statistically significant and only with the first two statements, ("the programmes made economic theory more relevant" and "the programmes were useful in providing up-to-date information"), was the level of agreement statistically significant. There was disagreement with the view that "the use of famous economists to present their views made the different views of current economic problems easier to understand" but this was not statistically significant. However, there was a statistically significant level of disagreement with the last two statements, ("too many examples made the programmes difficult to follow" and "the time spent watching the programmes could have been better spent").

Table 8: Analysis of Attitude Responses: All Sixth Formers

Statement	Mean Response
The programmes made economic theory more relevant*	2.4375
The programmes were useful in providing up-to-date information*	2.1667
The programmes increased interest in economics	2.8125
The programmes were useful in providing an alternative view to that presented by our usual teachers	2.8958
The use of famous economists to present their views made the different views of current economic problems easier to understand	3.2500
Too many examples made the programmes difficult to follow*	3.5000
The time spent watching the programmes could have been better spent*	3.5625

* indicates statistically significant at the 5% level

From their responses to these statements, it is possible to identify those areas where students feel that the use of television programmes and video recordings are most useful. In particular they highlighted the way the programmes made economic theory more relevant and also provided current information, with the various examples being important in clarifying the theoretical elements of the programmes. Further support for the use of such programmes is revealed by the student response to the final statement where only 6 out of the 48 thought that the time spent watching the programmes could have been better spent.

The different responses by the two groups of students was then compared by means of 't' tests on the average response to each question. For six of the seven statements the only difference between the first and second year sixth form students was one of degree with both the groups either agreeing or disagreeing with the statements and in only one of these six cases was the difference between their responses significant at the 95% level. This concerned the use of the programmes as a source of up-to-date information which the second year sixth form students felt more strongly about than their first year counterparts. The seventh statement, that concerned with the use of the programmes in providing an alternative view of the subject to that presented by the usual teacher, was supported by the first year sixth form students with a mean score of 2.5 but rejected by the second year students who had a mean score of 3.5, possibly because they felt such alternatives to be unimportant or alternatively because they were, at that stage of their course, better able to seek out alternative views for themselves via their own researches. Table 9 summarises these results.

Table 9: Analysis of attitude responses by First and Second Year Sixth Form groups.

Statement	Mean Response	
	Second Year	First Year
The programmes made economic theory more relevant	2.5172	2.3158
The programmes were useful in providing up-to-date information	2.3448	1.8947
The programmes increased interest in economics	2.7241	2.9474
The programmes were useful in providing an alternative view to that presented by our usual teachers	2.5172	3.4737
The use of famous economists to present their views made the different views of current economic problems easier to understand	3.3103	3.1579
Too many examples made the programmes difficult to follow	3.4828	3.5263
The time spent watching the programmes could have been better spent	3.6552	3.4211

Finally, students were asked for any comments which they had on the series. A view expressed by several students was that programmes should relate more clearly to specific elements of their 'A' level syllabus. This possibly sheds as much light on the average 'A' level student as it

does on the series itself. There was disagreement as to the effectiveness of the use of "famous" economists with one student suggesting that they "put easy theories into a totally unintelligible form" while another argued that there were "too many interviews with so-called famous economists which were hard to follow and somewhat tiresome" and a third suggested that the series "could have done with slightly fewer economists and a more detailed analytical study of each topic instead." On the other hand, there was support among students for the way "both sides of political arguments were put" by the various economists.

These opinions are reinforced by a consideration of the comments made by respondents to Adrian Perry's survey, where they were asked to comment on both the strong and the weak points of the series. In the first category considerable mention was made of the topicality of the series and of its attempt to look at current problems from a variety of viewpoints while at the same time making clear that the subject did not automatically provide answers to all current problems. There was praise for the wide variety of topics covered and for the applied nature of most of the programmes. The use of graphics was extensively commented upon, although a number of those answering suggested that the programmes would have benefited from an even greater use of them and a reduction in the number of "talking heads" used. There was also felt to be a certain lack of clarity about the level of prior knowledge expected of viewers - most programmes required a certain amount since treatment of basic concepts was very fast in some cases. In general the response to the series was favourable and there was no evidence shown that dissatisfaction with the quality of the programmes was a reason for not using them.

Section 5: Teachers' Questionnaire 2

The final part of the investigation involved a second, more extensive questionnaire which was sent out at the end of the series to a random selection of those school teachers whose responses to the first questionnaire indicated that they were making some use of the series. Twenty-five were sent out and responses were received from 19. The questionnaire is set out in Appendix 4. The aim of this part of the investigation was to look at the facilities available to teachers to record and show programmes and to try to examine the way in which they used such programmes. (This particular part of the investigation was restricted specifically to those teaching in schools and Sixth Form colleges).

Almost all teachers used the VHS format, with only 2 out of the 19 respondents not using it and using the Betamax format instead. But teachers had far more diverse facilities available to record and watch programmes. With regard to the recording of programmes, respondents fell into three broad categories. Firstly there were those (5/19) who had a media resources unit staffed by one or more technicians, who recorded programmes required by teaching staff. A variant of this, (2/19), was where a member of the teaching staff had, as part of his or her duties, to carry out this function for colleagues. The second category, with 8 respondents, involved situations where staff had to record their own programmes using school equipment, with time switches being used for recordings made out of school time. This category can be further sub-divided according to whether only one or more than one recorder was available for use (5/19 and 4/19 respectively). The final category, involving 3 respondents, was where no recording facilities were available at school and

all recording had to be done privately either by the teachers themselves or by their students. It is worth noting that a number of those who had to do their own recording on school equipment mentioned the difficulty in doing so on a regular basis due to clashes with other staff wishing to use the machines, especially for programmes shown in the evenings and at weekends. As a result, over a third of this category stated that they often made their own arrangements to record programmes privately. Table 10 summarises this information.

Table 10: Facilities Available to Record Programmes

Facilities	No. of Responses	%
None	3	16
1 VCR) teacher making own recording	5	26
2 or more VCR's)	4	21
Recordings made for teacher		
a. by a member of the teaching staff	2	11
b. by ancillary staff	5	26

A similarly varied picture emerges when the facilities available for showing videos and watching television programmes were examined. Responses varied from those who had only one machine available to them, either of a portable nature or housed in a television room or lecture theatre, (6/19), to those where each department had at least one machine available for its own use. Respondents in the former category cited the difficulty of booking equipment on a regular basis and hence of showing more than the occasional programme, thus suggesting that lack of facilities was a major constraint in the use of a complete series of programmes. Table 11 presents this information.

Table 11: Facilities Available To Watch Programmes

Facilities	No. of Responses	%
None	-	-
One television room/lecture theatre or portable VCR	6	32
Two television rooms/lecture theatres or portable VCRs	5	26
Three television rooms/lecture theatres or portable VCRs	-	-
Four television rooms/lecture theatres or portable VCRs	2	11
More than four television rooms/lecture theatres or portable VCRs	4	21
One or more VCRs available solely for departmental use	2	11

The above table reveals the disparity in facilities available to teachers and also how uncommon it is for a department within a school to have the use of facilities to itself, something which most Heads of Departments would presumably wish for.

In an attempt to examine how videos were used in the classroom, Question 6 asked teachers whether they watched programmes themselves before showing them to their students. Of the 19 replies, 5 always watched programmes themselves before showing them to a class for the first time, 11 usually watched, 3 watched only occasionally and none never watched. On the basis of these figures, it is difficult to imagine that optimal use is being made of videos, in the manner suggested by Wilson and Sumner, if they are often not being previewed before use. One possible explanation of these figures would be that those in the "always watched" category had better facilities available to them than those who watched only occasionally. However, this was not supported by an examination of the facilities available to them.

From the replies to the questions specifically concerned with the "A Question of Economics" series, it is possible to expand on the picture of the way such videos are used. The main use of the series was with second year sixth formers, with 16 out of 19 respondents in this category. Of these, 4 used the series regularly, 11 used occasional programmes and 1 made the recordings available to students to borrow to watch out of lessons. In addition, 10 made use of the programme with first year 'A' level groups, 1 with general studies groups, 1 with first year 'A' level business studies students and 2 with 'O' level groups. (A similar picture is found by considering the data collected by Perry, where 71.4% of those sampled from schools or colleges of further education were using the series with 'A' level classes. No distinction was made in his survey between first and second year 'A' level students). The average size of sixth form 'A' level economics groups watching the series was 9 and 13 students in the second and first years respectively and, except when the programmes were loaned to students, they were always watched during lessons as opposed to being used as an extra activity either after school or during the lunch-break. (However one respondent did point out that, had it not been for the current dispute, he would have shown the programmes during the lunch-break rather than using lesson time to show them). The average number of periods each teacher had with the groups(s) watching the series was 6.8 (based on a 40 minute period). All those who stated that they used the series regularly had at least the average number of periods with their group(s) whereas those who made only occasional use of the series included a preponderance of those teachers, possibly sharing sets with other staff, who had a smaller number of periods with their group(s). From this, one can deduce that the usage of such programmes is regarded by the majority of teachers as being an extra, or luxury activity rather than one which is central to their teaching.

Teachers were then asked whether they allowed their students to watch the programmes without interruption by the teacher, with occasional teacher interruption, (defined as being up to five times during a programme), or whether they interrupted on more than five occasions. Such interruptions would be used by the teacher to clarify difficult sections, highlight key areas, answer questions or simply to check the level of attention and understanding by asking questions of the class. Of the teachers who used the series with second year 'A' level students, 40% (6/15) did not interrupt at all, a further 40% only interrupted occasionally and only 20% (3/15), interrupted regularly. For the use of the series with first year 'A' level students, the corresponding figures were 50%, 30% and 20%. Those who criticise the use of television because of its passive nature will find some support for their views here, as they will from the finding that, although all but two users followed the programmes with dis-

cussion, only four respondents regularly set any specific follow-up work, such as worksheets on the programmes, the setting of essay and data-response questions pertaining to the material covered and reading being recommended relating to the programmes. A partial explanation of the low level of follow-up work might be found in the fact that 80% of those using the series with second year 'A' level students were doing so as a means of revising topics and therefore they might have felt that there was less need to set specific work than in other circumstances.

The final question attempted to gain some idea of what proportion of time was spent using television in the classroom. A list of activities was provided and teachers were asked to give an estimate of the time spent on each one. Any such exercise, carried out in this way, is of necessity a fairly approximate estimate, and is probably of more use in giving an idea of the relative time spent on various techniques, rather than the absolute time. Table 12 sets out the results.

Table 12: Time Spent On Classroom Techniques

Technique	% [1]
Teacher Explanation	60.0
Discussion	12.0
Worksheets and Problems	11.0
Individualised Learning	5.5
Television	4.5
Role-Play and Simulations	3.0
Computing	2.5
Audio-Tapes	0.5
Other	0.5

1 Figures rounded to the nearest 0.5% and total does not sum to 100%

The time spent using television corresponds to the comparable figures found by Holley and Skelton in their investigation into economics and commerce education for the 14-16 age group (Holley and Skelton, 1980).* From Table 12 one sees that the use of television, while more important than role-play, the computer and audio tapes, (now presumably largely replaced by the VCR), is still very small. In terms of the average amount of time spent, it is of the order of just over one lesson per month. Obviously such an estimate covers wide ranges of use amongst individual teachers. Nevertheless, on the basis of these figures it is hard not to agree with Wilson's comments concerning the low use of television which were cited in the introduction to this paper. It seems clear that teachers do not yet have the necessary facilities available to them to make the best use of videos and, in the present financial climate, are unlikely to obtain them in the near future. What one

* Holley and Skelton found that teachers of 'O' level economics spent 4.0% of their time using television while the figures for combined 'O' level and C.S.E. classes was 3.3% and for C.S.E. classes it was 2.8%.

might ideally wish to aim for is a situation where a VCR is easily available - i.e. specifically for the use of a department - and the teacher can thus show programmes, or more usefully, sections of programmes, at very short notice without having to compete with other colleagues for scarce resources in the form of the lecture theatre and VCR. From the teacher's side what is necessary is the time to study the various programmes from series such as "A Question of Economics" in order to build up a well-catalogued library of video which can be used on different occasions.

Section 6: Conclusion

This paper has attempted to examine the ways in which television is currently being used in the classroom and the attitude of students and teachers towards it. The emphasis throughout has been primarily descriptive and, as such, has thrown up a number of issues for further investigation. In particular there is a need for detailed classroom investigation of the use of specific television programmes, comparing performances of those taught using them with those not exposed to them. Such an investigation could also examine whether the ability of those examined in any way influences their attitude towards television and their ability to benefit from it. From the teacher's angle, there is a need to examine the ways in which the effectiveness of programmes can be maximised, comparing the performance of groups subject to programmes without interruption with those shown the same material in short segments. It should be emphasised that the figures derived here must, of necessity, be treated with extreme caution. Firstly it is likely that the rate of usage of television among those who returned the questionnaire might be different from non-respondents. Secondly, the original survey was taken from members of the Economics Association - a group possibly more aware of and more likely to make use of new resources than non-members. Finally, and perhaps more importantly, the size of the various samples were limited by lack of resources, thereby seriously reducing the validity of the predictions made from them. Indeed they should be regarded more as possible avenues for future research than as definite conclusions themselves.

Appendix One. A Question of Economics: Titles of Programmes

Programme		
	1	Can we afford the dole?
	2	Is Britain going bust?
	3	Have we forgotten the thirties?
	4	What's happened to inflation?
	5	Is government borrowing too much?
	6	Does the decline in manufacturing matter?
	7	Can we spend our way out of trouble?
	8	No island is an island?
	9	How have others coped?
	10	Can we get back to full employment?
	11	Which way for the market?
	12	More or less equal?
	13	Welfare state or going private?
	14	Public or private enterprise?

15 Is the City doing a proper job?
16 Is big business out of control?
17 What should be done about the unions?
18 Are you happy in your work?
19 The right to manage?
20 Whose economy is it anyway?

Appendix Two: Teachers' Questionnaire 1

A Question of Economics

The aim of this questionnaire is to generate information about the extent of viewing and the nature of the use of the current Yorkshire Television/Channel Four series, 'A Question of Economics'. You have been selected from a random sample of Economics Association members and I would be most grateful if you would complete the following questionnaire and return it to me in the stamped, addressed envelope provided. All the information given will be treated in the strictest confidence and no use will be made of replies which could result in the identification of any individual or establishment.

The investigation is in two parts. The first, based on this questionnaire, is primarily concerned with examining the reasons given by respondents who are not watching the series. A second questionnaire will be sent out at the end of the series to those whose replies to this questionnaire indicate that they are currently watching the series. The second questionnaire will attempt to examine the ways in which the series is being used by teachers of economics and related subjects.

Thank you.

N.J. Carr

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1. What type of establishment do you teach in? _____
   e.g. Comprehensive, VI Form College, Independent, Further Education.

2. What is your post? _____
   e.g. Head of Business Studies, teacher of Economics.

3. How many years' teaching experience have you had? _____(Years)

4. Are you aware that the series is currently being shown on Channel Four? YES/NO

   If your answer to question 4 was negative, please turn to question ten.

If your answer to question 4 was positive, please state how you heard of the series:

---

5. Are you currently watching the series yourself? YES/NO
6. Are you having the series recorded: a) for your own viewing YES/NO
   b) for use in teaching YES/NO
7. Are you planning to purchase the videotapes of the series? YES/NO

If any of your answers to questions 5-7 were positive, please continue at question 10.
You will also be sent a second questionnaire in June.

8. Did you start to watch the series but then cease to view it? YES/NO
   If your answer was positive, please state briefly why: _____

---

9. Using a scale of 1 - 4, (1 = totally unimportant, 2 = unimportant, 3 = important, 4 = very important), please assess the importance of the following reasons in your decision not to watch the series: (Ring round relevant number)

a)	Ignorance about the series	1	2	3	4
b)	Lack of facilities to watch the series	1	2	3	4
c)	Ignorance about the content of the series	1	2	3	4
d)	Lack of facilities to record the series	1	2	3	4
e)	Insufficient time to show the series	1	2	3	4
f)	Not at an appropriate level for the courses taught	1	2	3	4

Please specify which courses this applies to: _____

Please also state whether you thought the series too difficult or too elementary:

TOO DIFFICULT/TOO ELEMENTARY

g)	The content was not relevant to the courses taught	1	2	3	4

Other reasons: (Please specify) _____

---

10. Have you made use of any other television programmes in your teaching? YES/NO

    If yes - which ones? _____

If no - why not? _____

Please return the questionnaire in the envelope provided. Thank you.

Questionnaire Number:

Appendix Three: Student Questionnaire

A Question of Economics

The aim of this questionnaire is to evaluate the effectiveness of the above television series, currently being shown on Channel 4. Please answer the following questions; all answers will be treated in confidence.

Delete as appropriate

1. Did you watch the series out of school? Regularly/Occasionally/Never
2. Were you recommended to watch the series? YES/NO
3. Did you find the programmes you saw Very Interesting/Interesting/ Uninteresting/Very Uninteresting
4. Did the programmes assist you in understanding your 'A' level work? YES/NO
5. Were the programmes aimed at a level which was: Too difficult/About Right/ Too easy
6. Were the programmes shown at the right time in your course? YES/NO

   If your answer was no, state when you would rather have had them shown:

   ---

7. Did you find the time spent watching the programmes was useful? YES/NO
8. Did you find the programmes: generally unbiased/generally biased
   If your answer was that the programmes were generally biased, please state in which direction you thought they were biased and explain why you have reached this opinion: ---

   ---

For each of the following statements use the scale below to indicate whether you agree or disagree with them: (1 = agree strongly, 2 = agree, 3 = undecided, 4 = disagree, 5 = disagree strongly).

a) The programmes made economic theory more relevant ---
b) The programmes were useful in providing up-to-date information ---
c) The programmes increased interest in economics ---
d) The programmes were useful in providing an alternative view to that presented by our usual teachers ---
e) The use of famous economists to present their views made the different views of current economic problems easier to understand ---
f) Too many examples made the programmes difficult to follow ---
g) The time spent watching the programmes could have been better spent ---

If you have any general comments on the series, please list them below:

Appendix Four: Teachers' Questionnaire 2

Dear

Last term you were kind enough to respond to a questionnaire concerning the television programme "A Question of Economics", produced by Yorkshire Television and shown on Channel 4. Your earlier response indicated that you had watched some of the series and/or were videoing it. This questionnaire is an up-date of the previous one and attempts to examine how teachers make use of such programmes in the classroom. I would be grateful if I could impose upon you once more to answer the questions below. All replies will be treated in the strictest confidence and it is hoped that the results of the research will be published as one of the series of Research Papers produced by the Department of Economics, Geography and Business Education at the Institute of Education, London University.

May I take this opportunity of thanking you for your assistance so far.

N.J. Carr.

Section 1.

Delete as appropriate

1. Did you watch the series out of school? Regularly/Occasionally/Never
2. Did you recommend your 'A' Level students to watch the series? Yes/No
3. Have you purchased the book accompanying the series? Yes/No
4. Did you find the series: Generally biased against the Government/ Generally unbiased/Generally biased in favour of the Government.
5. What format do you use for showing video programmes in school? VHS/ Betamax/Other
6. When showing video recordings to your students for the first time, do you watch them yourself in advance? Always/Usually/Occasionally/Never
7. What facilities are available to you in school/college (please delete where appropriate): a) To watch videos:

b) To record videos:

8. Are you currently recording the series for transmission next year? Yes/No
9. Are you planning to purchase the series on Video from YTV? Yes/No

Section 2.

Second Year 'A' Level Economics Students.

1. Did you show any of the "A Question of Economics" Series to this age group? Never/Occasional Programmes/Regularly.
   If your answer was 'never', please move on to the next section.
2. How many periods per week do you have with each group in this category?
3. How many groups in this category in your educational establishment saw the series? (This would include groups who were shown the series by other members of staff).
4. What was the average student size per group? 1 - 5/ 6 - 10/ 11 - 15/ 16 -20/ 21 - 25/ 26 -30

5. Were the programmes watched: During lessons/After school/during the lunch-break/ at other times (please specify).
6. When showing the programmes, did you: Show them continually, without interruption/interrupt occasionally (up to five times during the programme)/interrupt regularly (more than five times).
7. Were the programmes watched in the order shown on Channel 4? Yes/No.
8. At the end of each programme was any follow-up work set? Yes/No. If 'Yes', please specify:
9. Were the programmes generally followed by discussion of the issues raised? Yes/No.
10. Did you see the programmes as being more useful in introducing a topic or in revising it? Introducing/Revising.
11. Have you made use of any of the following programmes with this category of student in the past?

	Regularly	Occasionally	Never
Economics of the Real World			
10 x Economics			
The Money Programme			
Panorama			
Free to Choose			
The Age of Uncertainty			
Open University Programmes			
Weekend World			
Whatever Happened to Britain?			

12. Below is a list of activities which might be involved in teaching economics at this level. Please indicate the approximate % of time spent on each activity. This is very difficult, but even an approximate idea will be helpful.

Using computer facilities.
Watching television programmes and recordings.
Engaging in role-play and simulations
Listening to tape-recordings.
Individualised learning.
Discussions.
Work sheets/Case studies/Problem-solving exercises.
Teacher explanation.
Other (Please specify)

(Sections 3 and 4 were identical to Section 2, but concerned with First Year 'A' Level Students and Use with Other Groups, such as General Studies, 'O' Level classes, etc.

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